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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,627

09/23/2003

Kazuko Shinozaki

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EXAMINER

KRUSE, DAVID H

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/668,627	<b>Applicant(s)</b> SHINOZAKI ET AL.	
	<b>Examiner</b> David H. Kruse	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007 and 02 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 5-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR § 1.114***

1. A request for continued examination under 37 CFR § 1.114, including the fee set forth in 37 CFR § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR § 1.114, and the fee set forth in 37 CFR § 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR § 1.114. Applicant's submission filed on 5 March 2007 has been entered.
2. The terminal disclaimer filed on 22 January 2007 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of U.S. Patent 7,045,355 has been reviewed and is accepted. The terminal disclaimer has been recorded. Consequently the Double Patenting rejection in the Office action mailed 31 October 2006 has been withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 102***

4. Claims 5 and 7 remain rejected and claims 9 and 11 are rejected under 35 U.S.C. § 102(e) as being anticipated by Thomashow *et al* (U.S. Patent 6,417,428 B1, filed 23 November 1998, and claiming priority as a continuation-in-part to U.S. Patent Application 09/017,816, filed 3 February 1998). This rejection is repeated for the reason of record as set forth in the last Office action mailed 31 October 2006. Applicant's arguments filed 2 April 2007 have been fully considered but they are not persuasive.

Applicants argue that Thomashow et al. do not teach or suggest the use of a stress-responsive promoter comprising a DRE region(s), nor do they teach or suggest a transgenic plant transformed with the DREB 1C gene, as recited in the present claims (page 5, 2<sup>nd</sup> paragraph of the Remarks). Applicants argue that Thomashow et al. teach away from the use of a stress-responsive promoter, and directed the Examiner to column 24 of Thomashow et al. (page 5, 3<sup>rd</sup> paragraph of the Remarks). Applicants argue that in the present invention, the use of DREB 1 C ligated downstream of a stress-responsive promoter comprising a DRE region(s) allows enhancement of stress tolerance of plants without delay in growth or dwarfing of the plants, therefore, in view of the teachings of Thomashow et al., one of ordinary skill in the art would not be motivated to use a stress-responsive promoter, as Thomashow et al. teach away from the use of a stress-responsive promoter and only describe the use of a strong constitutive promoter (page 5, 5<sup>th</sup> paragraph of the Remarks).

These arguments are not found to be persuasive. The Examiner has provided evidence that SEQ ID NO: 13 of Thomashow *et al* is identical in structure to SEQ ID NO: 8 of the instant invention (see claim 1 of Thomashow *et al*). The Examiner had previously stated that Thomashow *et al* defined "regulated by changes in environment conditions" as being temperature and/or dryness, both well established stress factors in plants in the instant art. Thomashow *et al* explicitly disclose that the rd29 gene promoters are encompassed by the invention, (column 25, lines 66 and 67) and that the rd29a promoter is induced by cold (column 2, lines 45-48). Thomashow *et al* also disclose that the cor15a, cor6.6 and kin1 gene promoters were known in the art as stress

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responsive promoters (see column 2, 2<sup>nd</sup> paragraph). Thomashow *et al* disclosed that promoters which are known or are found to cause inducible transcription of the DNA into mRNA in plant cells can be used in the invention and may be activated by a variety of exogenous stimuli, such as cold, heat, dehydration, pathogenesis and chemical treatment (column 25, lines 49-67). Thomashow *et al* disclose the rd29b gene promoter was particularly envisioned as stated above. Given the recitation of claim 8 of Thomashow *et al*, Applicants' argument that Thomashow *et al* teaches away from the instant invention is not found to be persuasive. Hence, Thomashow *et al* had previously disclosed all of the claim limitations.

***Claim Rejections - 35 USC § 103***

5. Claims 6 and 8 remain rejected and claims 10 and 12 are under 35 U.S.C. § 103(a) as being unpatentable over Thomashow *et al* (U.S. Patent 6,417,428 B1, filed 23 November 1998, and claiming priority as a continuation-in-part to U.S. Patent Application 09/017,816, filed 3 February 1998). This rejection is repeated for the reason of record as set forth in the last Office action mailed 31 October 2006. Applicant's arguments filed 2 April 2007 and 5 March 2007 have been fully considered but they are not persuasive.

Applicant argues the rejection under 35 USC 102(e) and 103(a) together in the Remarks. Hence, Applicants' have been outlined above.

Applicants argue that the Thomashow patent does not teach or suggest a transgenic plant transformed with a DNA comprising or encoding a protein comprising "the nucleotide sequence as shown in SEQ ID NO: 7, operably linked downstream of a

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stress responsive promoter comprising a DRE region," as recited in independent claims 6 and 8, for the reasons articulated in the previous responses. Accordingly, Applicants submit that the Thomashow patent cannot render claims 6 and 8 obvious, as it does not teach or suggest each and every element of these claims, and request that the obviousness rejection over the Thomashow patent be removed.

It remains unclear from Applicants' teachings if the leading 134 nucleotides and the subsequent 159 nucleotides of SEQ ID NO:7 (encoding SEQ ID NO: 8), that do not encode a protein, would lead to a teaching of unexpected results, since such nucleotides would produce a functionally identical transgenic plant. This fact would have been obvious to one of ordinary skill in the art at the time of Applicant's invention.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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7. Claims 5-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 3 of copending Application No. 10/798,579. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed method of the copending application would render obvious the claimed transgenic plant because the copending application also teaches the DREB1C gene of SEQ ID NO: 7.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 5-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13, 14 and 17 of copending Application No. 10/266,487. Although the conflicting claims are not identical, they are not patentably distinct from each other because the isolated host cell transformed with the recombinant vector comprising SEQ ID NO: 7 of the copending application would render obvious the claimed transgenic plant of the instant claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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### **Conclusion**

9. No claims are allowed.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (571) 272-0799. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The central FAX number for official correspondence is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-1600.

**DAVID H. KRUSE, PH.D.  
PRIMARY EXAMINER**



David H. Kruse, Ph.D.  
19 June 2007

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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